UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,294	04/19/2004	Naoko Ito	8046-1017-1	1316

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EXAMINER
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ART UNIT	PAPER NUMBER
2168	

NOTIFICATION DATE	DELIVERY MODE
01/05/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

	Application No.	Applicant(s)
Office Action Summary	10/826,294	ITO ET AL.
	Examiner	Art Unit	
	DANGELINO N. GORTAYO	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 October 2010</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>17-30,47,51-53,55,56,58,59 and 61-63</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>17-30, 47, 51-53, 55-56, 58-59 and 61-63</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)　　　　　　　　**Office Action Summary**　　　　　　　　Part of Paper No./Mail Date 20101220

DETAILED ACTION

Response to Amendment

1.   In the amendment filed on 10/18/2010, claims 17, 47 and 61-63 have been

amended. The currently pending claims considered below are Claims 17-30, 47, 51-53,

55-56, 58-59 and 61-63.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 17-30, 47, 51-53, 55-56, 58-59 and 61-63 are rejected under 35 U.S.C.

103(a) as being unpatentable over Jeyaraman (US Patent 6,377,957 B1) in view of

Benson et al. (US Patent 6,202,085 B1)

    As per claim 17, Jeyaraman teaches "A structured document processing

system" (see Abstract)

    "comprising: a network composed of a server device and a plurality of client

devices," (Figure 1, Figure 2, column 4 lines 18-38, wherein a system containing a

server and a plurality of client devices is disclosed)

    "the server device storing a structured document composed of a plurality of

elements" (column 3 lines 23-35, column 4 lines 53-65, wherein a server coupled to a

document database containing documents is disclosed) "composed of a plurality of

elements which are hierarchically organized in a tree structure" (column 4 lines 6-17,
wherein documents stored in a document database are tree-structured) "wherein each
of the elements is a constituent unit of the structured document and has a node tree
structure having a tag node as its top node, wherein predetermined ones of the tag
node are provided with a transfer object flag," (Figure 6A, column 5 lines 32-67, column
7 lines 26-40, column 8 lines 13-25, wherein data stored in a database are in a tree
hierarchy to represent parts of a document, including a root node indicating the
difference)

      "the server device comprising an update manager for managing an update of the
structured document using only a single updated minimum element which is a tree
structured portion of the structured document, wherein a top node of the single updated
minimum element is provided with the transfer object flag, wherein the single updated
minimum element has a minimum node tree, includes a plurality of updated portions of
the structured document, and is determined by referring to its transfer object flag,"
(Figure 3 reference 310, 312, Figure 4 reference 406, 408, column 5 lines 33-67,
column 6 line 51 – column 7 line 9, column 7 line 26 – column 8 line 11, column 9 lines
31-64, column 13 lines 19-37, wherein the difference between the updated copy and the
original copy is found in the server, indicating the necessary changes, and the update to
specify manipulation of nodes using the tags of the nodes is created, composed of
differences and node information from portions of the tree structured document)

      "and a transmission section that identifies for transmission the single updated
minimum element based on a location of the transfer object flag within the tree structure

and transmits the identified single updated minimum element to one of the client

devices." (Figure 3 reference 314, Figure 4 reference 410, column 5 lines 33-54, column

6 lines 16-23, column 7 lines 10-14, lines 26-67, column 8 line 38 - column 9 line 40,

wherein the change commands identifying specific nodes are sent to clients by the

server to update cached copies of a document)

"wherein each of the client devices completes the update with only a single

replacement operation of replacing a corresponding tree-structured minimum element of

the structured document currently stored in the client device with the identified updated

tree-structured minimum element received from the server (column 5 lines 33-54,

column 6 lines 10-23, lines 44-57, column 7 lines 4-18, column 7 line 25 – column 8 line

11, column 13 lines 19-64, wherein an aggregate changes update containing portions to

be updated to be utilized by a client to update data are sent to a client for

transformation)

Jeyaraman teaches that the system can check if a client contains a copy of a

document (column 5 lines 26-35). Jeyaraman does not explicitly teach "each of the

client devices stores a duplication of the structured document". Benson teaches "each

of the client devices stores a duplication of the structured document" (column 13 lines

31-56, wherein a local copy of a document is stored by a data replication system). It

would have been obvious at the time of the invention for one of ordinary skill in the art to

combine Jeyaraman's system of propagating document updates to clients with

Benson's method of synchronizing exact copies of data from sources to synchronizing

clients without having to check if a copy is contained in a client. This would give the user

the advantage of improving access time and performance by eliminating a step in the

process of propagating changes to a document in a network. The motivation for doing

so would be to provide a generalized synchronization model. (Benson, column 3 lines

39-48)

   As per claim 18, Jeyaraman teaches "the update manager instructs the

transmission section to transmit the single updated minimum element of the structured

document when the structured document has been updated. (column 7 lines 19-24)

   As per claim 19, Jeyaraman teaches "the update manager instructs the

transmission section to transmit update information to one of the client devices when

the structured document has been updated, the update information including

identification information identifying the single updated minimum element of the

structured document" (column 7 lines 50-67)

   As per claim 20, Jeyaraman teaches "the update manager manages the update

of the structured document using an update time at which the update of the structured

document occurs, wherein, when an update occurs at the node, the update manager

instructing the transmission section to transmit update information to a client device, the

update information including the update time." (column 5 lines 33-37, lines 48-54,

column 7 lines 19-24)

   As per claim 21, Jeyaraman teaches "when a client device receives the update

information from the server device, the client device updates the structured document

stored therein based on the update information received. " (column 6 lines 17-23,

column 7 lines 10-18)

As per claim 22, <u>Jeyaraman</u> teaches "each of the client devices comprises: a comparator for comparing the update time of the update information received is later than an updated time of the structured document currently stored therein;" (column 5 lines 33-38)

"and a transmission controller for requesting transfer of an updated minimum element of the structured document when the update time of the update information received is later than the updated time of the structured document currently stored therein." (column 5 lines 33-54)

As per claim 23, <u>Jeyaraman</u> teaches "the update manager transmits the single updated minimum element of the structured document to a client device at a plurality of predetermined times." (column 7 lines 19-24)

As per claim 24, <u>Jeyaraman</u> teaches "the update manager transmits update information to the client device at a plurality of predetermined times, the update information including identification information identifying the single updated minimum element of the structured document." (column 5 lines 48-54, column 7 lines 19-24)

As per claim 25, <u>Jeyaraman</u> teaches "the update manager manages the update of the structured document using an update time at which the update of the structured document occurs, the update information further includes the update time." (column 5 lines 48-54, column 7 lines 19-24)

As per claim 26, <u>Jeyaraman</u> teaches "a gateway server device performing protocol processing between the server device and each of the client devices," (Figure 2 reference 204 and column 4 lines 18-65)

"wherein the server device transmits update information indicating that the structured document is updated to the gateway server device," (column 4 line 66 – column 5 line 16, column 6 lines 43-57)

"wherein the gateway server device comprises: an structured document manager for managing the duplication of the structured document stored in the client device;" (column 7 lines 4-24)

"an update information receiver for receiving update information from the server device;" (column 3 lines 59 – column 4 line 18, column 4 lines 18-46)

"and an update controller for transmitting the update information received from the server device to the client device." (column 4 line 53 – column 5 line 17)

As per claim 27, Jeyaraman teaches "the update controller transmits the update information received from the server device to the client device at a plurality of predetermined times." (column 7 lines 19-24)

As per claim 28, Jeyaraman teaches "when a client device receives the update information from the gateway server device, the client device updates the duplication of the structured document stored therein based on the update information received." (column 6 lines 16-27, column 7 lines 10-24)

As per claim 29, Jeyaraman teaches "each of the client devices comprises: a comparator for comparing the update time of the update information received is later than an updated time of the structured document currently stored therein;" (column 5 lines 33-38)

"and a transmission controller for requesting transfer of the single updated minimum element of the structured document when the update time of the update information received is later than the updated time of the structured document currently stored therein." (column 5 lines 33-54)

As per claim 30, Jeyaraman teaches "a gateway server device performing protocol processing between the server device and each of the client devices," (Figure 2 reference 204 and column 4 lines 18-65)

"wherein the server device transmits update information including an update time and the single updated minimum element to the gateway server device," (column 4 line 66 – column 5 line 16, column 6 lines 43-57)

"wherein the gateway server device comprises: an structured document storage for storing the duplication of the structured document stored in the client device;" (column 3 line 61 – column 4 line 52)

"an structured document manager for managing the duplication of the structured document for the client device and an update time thereof;" (column 7 lines 4-24)

"an update information receiver for receiving the update information from the server device; and an update controller for transmitting the updated minimum element of the structured document to a client device having the update time of the structured document stored therein, which is later than the update time included in the update information received from the server device." (column 3 lines 59 – column 4 line 18, column 4 lines 18-46)

   As per claim 47, <u>Jeyaraman</u> teaches "A structured document updating method"
(see Abstract) "in a network composed of a server device and a plurality of client
devices," (Figure 1, Figure 2, column 4 lines 18-38, wherein a system containing a
server and a plurality of client devices is disclosed)

   "the server device storing a structured document" (column 3 lines 23-35, column
4 lines 53-65, wherein a server coupled to a document database containing documents
is disclosed) "composed of a plurality of nodes which are hierarchically organized in a
tree structure, (column 4 lines 6-17, wherein documents stored in a document database
are tree-structured) "wherein each of the nodes is a constituent unit of the structured
document and has a node tree structure having a tag node as its top node, wherein
predetermined ones of the tag node are provided with a transfer object flag," (Figure 6A,
column 5 lines 32-67, column 7 lines 26-40, column 8 lines 13-25, wherein data stored
in a database are in a tree hierarchy to represent parts of a document, including a root
node indicating the difference)

   the method comprising the steps of: at the server device, a) managing an update
of the structured document composed of the plurality of nodes which are hierarchically
organized in he tree structure using only a single updated minimum element which is a
tree-structured portion of the structured document, wherein a top node of the single
updated minimum element is provided with the transfer object flag, wherein the single
updated minimum element has a minimum node tree structure, includes a plurality of
updated portions of the structured document, and is determined by referring to its
transfer object flag;" (Figure 3 reference 310, 312, Figure 4 reference 406, 408, column

5 lines 33-67, column 6 line 51 – column 7 line 9, column 7 line 26 – column 8 line 11,

column 9 lines 31-64, column 13 lines 19-37, wherein the difference between the

updated copy and the original copy is found in the server, indicating the necessary

changes, and the update to specify manipulation of nodes using the tags of the nodes is

created, composed of differences and node information from portions of the tree

structured document)

"and b) identifying for transmission the single updated minimum element based

on a location of the transfer object flag within the tree structure and transmitting the

identified single updated minimum element to the client device, and at a client device

receiving the identified single updated minimum element." (Figure 3 reference 314,

Figure 4 reference 410, column 5 lines 33-54, column 6 lines 16-23, column 7 lines 10-

14, lines 26-67, column 8 line 38 - column 9 line 40, wherein the change commands

identifying specific nodes are sent to clients by the server to update cached copies of a

document)

c) completing the update with only a single replacement operation of replacing a

corresponding tree-structured minimum element of the structured document currently

stored in the client device with the identified single updated tree-structured minimum

element received from the server. (column 5 lines 33-54, column 6 lines 10-23, lines 44-

57, column 7 lines 4-18, column 7 line 25 – column 8 line 11, column 13 lines 19-64,

wherein an aggregate changes update containing portions to be updated to be utilized

by a client to update data are sent to a client for transformation)

Jeyaraman teaches that the system can check if a client contains a copy of a document (column 5 lines 26-35). Jeyaraman does not explicitly teach "each of the client devices stores a duplication of the structured document". Benson teaches "each of the client devices stores a duplication of the structured document" (column 13 lines 31-56, wherein a local copy of a document is stored by a data replication system). It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Jeyaraman's system of propagating document updates to clients with Benson's method of synchronizing exact copies of data from sources to synchronizing clients without having to check if a copy is contained in a client. This would give the user the advantage of improving access time and performance by eliminating a step in the process of propagating changes to a document in a network. The motivation for doing so would be to provide a generalized synchronization model. (Benson, column 3 lines 39-48)

As per claim 51, Jeyaraman teaches "wherein step (b) includes transmitting update time information and the step (c) comprises the steps of: when the update time of the update time information received is later than an updated time of the structured document currently stored therein, requesting transfer of the single updated minimum element of the structured document." (column 5 lines 33-54, column 6 lines 10-23, lines 44-57, column 7 lines 10-18)

As per claim 52, Jeyaraman teaches "an updated element is transmitted to the client devices at a plurality of predetermined times." (column 7 lines 19-24)

As per claim 53, <u>Jeyaraman</u> teaches "update information is transmitted to the client devices at a plurality of predetermined times, the update information including identification information identifying the single updated minimum element." (column 5 lines 48-54, column 7 lines 19-24)

As per claim 55, <u>Jeyaraman</u> teaches "the network further comprises a gateway server device performing protocol processing between the server device and each of the client devices," (Figure 2 reference 204 and column 4 lines 18-65)

"the method further comprising the steps of: at the gateway server device, d) managing the structured document stored in each of the client devices;" (column 7 lines 4-24)

"e) receiving an update information from the server device;" (column 3 lines 59 – column 4 line 18, column 4 lines 18-46)

"and f) transmitting the update information received from the server device to a client device." (column 4 line 53 – column 5 line 17)

As per claim 56, <u>Jeyaraman</u> teaches "in the step (f), the update information received from the server device is transmitted to the client device at a plurality of predetermined times." (column 7 lines 19-24)

As per claim 58, <u>Jeyaraman</u> teaches "wherein the step (b) includes transmitting update time information, and further comprising the steps of: at the client device, when the update time of the update time information received is later than an updated time of the structured document currently stored therein, using the identification information to

request transfer of the single updated minimum element from the gateway server device." (column 5 lines 33-54, column 6 lines 10-23, lines 44-57, column 7 lines 10-18

      As per claim 59, <u>Jeyaraman</u> teaches "the network further comprises a gateway server device performing protocol processing between the server device and each of the client devices," (Figure 2 reference 204 and column 4 lines 18-65)

      "the method further comprising the steps of: at the gateway server device, storing the structured document stored in each of the client devices in an information storage;" (column 3 line 61 – column 4 line 52)

      "managing the structured document for each of the client devices and an update time thereof;" (column 7 lines 4-24)

      "receiving an update information from the server device at which an update of the structured document occurs;" (column 3 lines 59 – column 4 line 18, column 4 lines 18-46)

      "selecting a client device having the update time of the structured document stored therein, which is later than the update time included in the update information received from the server device;" (column 4 line 66 – column 5 line 16, column 6 lines 43-57)

      "and transmitting the single updated minimum element identified by the identification information included in the update information received from the server device, to the selected client device." (column 4 line 53 – column 5 line 17)

As per claim 61, <u>Jeyaraman</u> teaches "A storage medium storing a computer program for updating a structured document in a network" (see Abstract)

"composed of a server device and a plurality of client devices," (Figure 1, Figure 2, column 4 lines 18-38, wherein a system containing a server and a plurality of client devices is disclosed)

"the server device storing a structured document" (column 3 lines 23-35, column 4 lines 53-65, wherein a server coupled to a document database containing documents is disclosed) "composed of a plurality of nodes which are hierarchically organized in a tree structure," (column 4 lines 6-17, wherein documents stored in a document database are tree-structured) "wherein each of the nodes is a constituent unit of the structured document and has a node tree structure having a tag node as its top node, wherein predetermined ones of the tag node are provided with a transfer object flag," (Figure 6A, column 5 lines 32-67, column 7 lines 26-40, column 8 lines 13-25, wherein data stored in a database are in a tree hierarchy to represent parts of a document, including a root node indicating the difference)

"the computer program at the server device comprising the steps of: a) managing an update of the structured document composed of the plurality of nodes which are hierarchically organized in the tree structure using only a single updated minimum element which is a tree-structure portion of the structured document, wherein a top node of the single updated minimum element is provided with the transfer object flag, wherein the single updated minimum element has a minimum node tree structure, includes a plurality of updated portions of the structured document, and is determined

by referring to its transfer object flag;"(Figure 3 reference 310, 312, Figure 4 reference

406, 408, column 5 lines 33-67, column 6 line 51 – column 7 line 9, column 7 line 26 –

column 8 line 11, column 9 lines 31-64, column 13 lines 19-37, wherein the difference

between the updated copy and the original copy is found in the server, indicating the

necessary changes, and the update to specify manipulation of nodes using the tags of

the nodes is created, composed of differences and node information from portions of

the tree structured document)

     "identifying for transmission the single updated minimum element based on a

location of the transfer object flag within the tree structure and transmitting the identified

single updated minimum element to the client devices." (Figure 3 reference 314, Figure

4 reference 410, column 5 lines 33-54, column 6 lines 16-23, column 7 lines 10-14, lines

26-67, column 8 line 38 - column 9 line 40, wherein the change commands identifying

specific nodes are sent to clients by the server to update cached copies of a document)

     "wherein each of the client devices completes the update with only a single

replacement operation of replacing a corresponding tree-structured minimum element of

the structured document currently stored in the client device with the identified updated

tree-structured minimum element received from the server." (column 5 lines 33-54,

column 6 lines 10-23, lines 44-57, column 7 lines 4-18, column 7 line 25 – column 8 line

11, column 13 lines 19-64, wherein an aggregate changes update containing portions to

be updated to be utilized by a client to update data are sent to a client for

transformation)

Jeyaraman teaches that the system can check if a client contains a copy of a

document (column 5 lines 26-35). Jeyaraman does not explicitly teach "each of the

client devices stores a duplication of the structured document". Benson teaches "each

of the client devices stores a duplication of the structured document" (column 13 lines

31-56, wherein a local copy of a document is stored by a data replication system). It

would have been obvious at the time of the invention for one of ordinary skill in the art to

combine Jeyaraman's system of propagating document updates to clients with

Benson's method of synchronizing exact copies of data from sources to synchronizing

clients without having to check if a copy is contained in a client. This would give the user

the advantage of improving access time and performance by eliminating a step in the

process of propagating changes to a document in a network. The motivation for doing

so would be to provide a generalized synchronization model. (Benson, column 3 lines

39-48)

As per claim 62, Jeyaraman teaches "A server device in a structured document

processing system comprising a plurality of client devices," (see Abstract)

"the server device storing a structured document composed of a plurality of

nodes" (column 3 lines 23-35, column 4 lines 53-65, wherein a server coupled to a

document database containing documents is disclosed) "composed of a plurality of

nodes which are hierarchically organized in a tree structure" (column 4 lines 6-17,

wherein documents stored in a document database are tree-structured) "wherein each

of the elements is a constituent unit of the structured document and has a node tree

structure having a tag node as its top node, wherein predetermined ones of the tag

node are provided with a transfer object flag," (Figure 6A, column 5 lines 32-67, column

7 lines 26-40, column 8 lines 13-25, wherein data stored in a database are in a tree

hierarchy to represent parts of a document, including a root node indicating the

difference)

"the server device comprising an update manager for managing an update of the

structured document using only a single updated minimum element which is a tree-

structured portion of the structured document, wherein a top node of the single updated

minimum element is provided with the transfer object flag, wherein the single updated

minimum element has a minimum node tree structure, includes a plurality of updated

portions, and is determined by referring to its transfer object flag," (Figure 3 reference

310, 312, Figure 4 reference 406, 408, column 5 lines 33-67, column 6 line 51 – column

7 line 9, column 7 line 26 – column 8 line 11, column 9 lines 31-64, column 13 lines 19-

37, wherein the difference between the updated copy and the original copy is found in

the server, indicating the necessary changes, and the update to specify manipulation of

nodes using the tags of the nodes is created, composed of differences and node

information from portions of the tree structured document)

"and a transmission section that identifies for transmission the single updated

minimum element based on a location of the transfer object flag within the tree structure

and transmits the identified single updated minimum element to one of the client

devices." (Figure 3 reference 314, Figure 4 reference 410, column 5 lines 33-54, column

6 lines 16-23, column 7 lines 10-14, lines 26-67, column 8 line 38 - column 9 line 40,

wherein the change commands identifying specific nodes are sent to clients by the

server to update cached copies of a document)

"wherein each of the client devices completes the update with only a single

replacement operation of replacing a corresponding tree-structured minimum element of

the structured document currently stored in the client device with the identified single

updated tree-structured minimum element received from the server." (column 5 lines 33-

54, column 6 lines 10-23, lines 44-57, column 7 lines 4-18, column 7 line 25 – column 8

line 11, column 13 lines 19-64, wherein an aggregate changes update containing

portions to be updated to be utilized by a client to update data are sent to a client for

transformation)

Jeyaraman teaches that the system can check if a client contains a copy of a

document (column 5 lines 26-35). Jeyaraman does not explicitly teach "each of the

client devices stores a duplication of the structured document". Benson teaches "each

of the client devices stores a duplication of the structured document" (column 13 lines

31-56, wherein a local copy of a document is stored by a data replication system). It

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Benson's method of synchronizing exact copies of data from sources to synchronizing

clients without having to check if a copy is contained in a client. This would give the user

the advantage of improving access time and performance by eliminating a step in the

process of propagating changes to a document in a network. The motivation for doing

so would be to provide a generalized synchronization model. (Benson, column 3 lines
39-48)

   As per claim 63, <u>Jeyaraman</u> teaches "A client device in a structured document

processing system" (see Abstract, Figure 1, Figure 2, column 4 lines 18-38, wherein a

system containing a server and a plurality of client devices is disclosed)

   "comprising a server device that stores a structured document" (column 3 lines

23-35, column 4 lines 53-65, wherein a server coupled to a document database

containing documents is disclosed) "composed of a plurality of nodes which are

hierarchically organized in a tree structure, (column 4 lines 6-17, wherein documents

stored in a document database are tree-structured) "wherein each of the nodes is a

constituent unit of the structured document and has a node tree structure having a tag

node as its top node, wherein predetermined ones of the tag node are provided with a

transfer object flag," (Figure 6A, column 5 lines 32-67, column 7 lines 26-40, column 8

lines 13-25, wherein data stored in a database are in a tree hierarchy to represent parts

of a document, including a root node indicating the difference)

   "wherein the server device manages an update of the structured document using

only a single updated minimum element which is a tree-structured portion of the

structured document, the updated minimum element including an updated tree-

structured portion of the structured document wherein a top node of the single updated

minimum element is provided with the transfer object flag and update time information,

wherein the single updated minimum element has a minimum node tree structure,

includes a plurality of updated portions, and is determined by referring to its transfer

object flag," (Figure 3 reference 310, 312, Figure 4 reference 406, 408, column 5 lines

33-67, column 6 line 51 – column 7 line 9, column 7 line 26 – column 8 line 11, column

9 lines 31-64, column 13 lines 19-37, wherein the difference between the updated copy

and the original copy is found in the server, indicating the necessary changes, and the

update to specify manipulation of nodes using the tags of the nodes is created,

composed of differences and node information from portions of the tree structured

document)

      "and wherein the server device identifies for transmission the single updated

minimum element based on a location of the transfer object flag within the tree structure

and transmits the identified single updated minimum element and its update time

information to the client device." (Figure 3 reference 314, Figure 4 reference 410,

column 5 lines 33-54, column 6 lines 16-23, column 7 lines 10-14, lines 26-67, column 8

line 38 - column 9 line 40, wherein the change commands identifying specific nodes are

sent to clients by the server to update cached copies of a document)

      "wherein each of the client devices completes the update with only a single

replacement operation of replacing a corresponding tree-structured minimum element of

the structured document currently stored in the client device with the identified single

updated tree-structured minimum element received from the server." (column 5 lines 33-

54, column 6 lines 10-23, lines 44-57, column 7 lines 4-18, column 7 line 25 – column 8

line 11, column 13 lines 19-64, wherein an aggregate changes update containing

portions to be updated to be utilized by a client to update data are sent to a client for

transformation)

"the client device comprising: a comparator for comparing the update time of the

update time information received from the server device and a last update time of the

structured document currently stored therein to determine whether the update time of

the update time information is later than the last update time;" (column 5 lines 33-54,

column 6 lines 10-23, lines 44-57, column 7 lines 10-18, wherein a time stamp is sent

along with aggregate changes update to be utilized by a client to update data)

"and a transmission controller for requesting transfer of the single updated

minimum element of the structured document when the update time of the update

information received is later than the updated time of the structured document currently

stored therein." (Figure 3 reference 314, Figure 4 reference 410, column 5 lines 33-54,

column 6 lines 16-23, wherein an update request and the change commands identifying

specific nodes are sent to clients by the server to update cached copies of a document)

Jeyaraman teaches that the system can check if a client contains a copy of a

document (column 5 lines 26-35). Jeyaraman does not explicitly teach "each of the

client devices stores a duplication of the structured document". Benson teaches "each

of the client devices stores a duplication of the structured document" (column 13 lines

31-56, wherein a local copy of a document is stored by a data replication system). It

would have been obvious at the time of the invention for one of ordinary skill in the art to

combine Jeyaraman's system of propagating document updates to clients with

Benson's method of synchronizing exact copies of data from sources to synchronizing

clients without having to check if a copy is contained in a client. This would give the user

the advantage of improving access time and performance by eliminating a step in the

process of propagating changes to a document in a network. The motivation for doing

so would be to provide a generalized synchronization model. (Benson, column 3 lines

39-48)

Response to Arguments

4.   Applicant's arguments, see page 16, filed 10/18/2010, with respect to the

rejection of claims 17-30, 47, 51-53, 55-56, 58-59 and 61-63 in regards to 35 USC

103(a) have been fully considered but they are not persuasive.

        a.   Examiner is entitled to give claim limitations their broadest reasonable

        interpretation in light of the specification. See MPEP 2111 [R-I]

                Interpretation of Claims-Broadest Reasonable Interpretation

                During patent examination, the pending claims must be 'given the

        broadest reasonable interpretation consistent with the specification.' Applicant

        always has the opportunity to amend the claims during prosecution and broad

        interpretation by the examiner reduces the possibility that the claim, once issued,

        will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-

        51 (CCPA 1969).

        b.   Applicant's arguments is stated as Jeyaraman in view of Benson does not

        teach that the update manager uses only a single updated minimum element

which is a tree-structured portion of the structured document, where the single

updated minimum element includes a plurality of updated portions, each client

device completes an update with only a single replacement operation of

replacing a corresponding element with the updated minimum element.

        In regards to the argument, examiner respectfully disagrees. As disclosed

in the above rejection, Jeyaraman, discloses a method to send the changes

made in hierarchically structured data composed of nodes in a tree organization

between clients containing cached copies and a document server, and not a

complete copy of the data (column 2 lines 2-24). In particular, the update is

disclosed in column 5 lines 33-54 of Jeyaraman to be the differences between

the data copies, composed of node information and relevant operations for a

transformation. The update showing differences between copies of files is

collected in a single specific update, shown to be a single file sent from a server

to a client, as shown in Figure 1 reference 122. The single update is determined

by analysis of difference between the copy of the data in a client and in a

database, wherein the differences are collected in a single update file. The

update is disclosed in column 13 lines 19-37, wherein the update is disclosed to

be node information for portions of the tree-structured document requiring

update, as well as the transformation needed to update a tree-structured

document. The node information in the update represents portions in the tree

structured document where a difference is detected, for transformation. After all

the differences are collected, including the ability to include specific operations

that manipulate nodes within the data to show differences, the differences can then be utilized to construct the update. The applicant's argument set forth in page 16 of the response filed on 10/18/2010 puts forth that the updates sent to the clients contain deletion operation, insertion operation, and additional data as an update, whereas the Examiner interprets these operations to be the steps set forth in column 7 line 26 – column 8 line 11 of Jeyaraman to be the operations utilized to create the update indicating the differences between copies of files. Once the operations are detected to complete an update to transform a document to an updated copy, an update is create, which can then be sent to a client (column 13 lines 19-64). The update process includes several operations collected into one update file, but also teaches that the various deletion operations to transform a copy of a tree structured document into one delete operation from the highest ancestor node (column 10 lines 22-33, column 11 lines 22-31), wherein once the section of the tree structured document is deleted, a modification process containing swap operations is then applied in order to modify the document with respect to the single update created and received by the client, the swap operations applied to minimum tree elements of a document one by one as they correspond to the update transformations to update a cached copy of a document (column 12 line 25 – column 13 line 18). As interpreted by the Examiner, the operations in the update each correspond to tree elements in the cached copy, so that the update can be applied in the client receiving an update. The applicant's representative points to Figure 2 as disclosing how

multiple operations are sent to clients, yet Figure 2 of Jeyaraman teaches

multiple, single updates being sent to multiple clients, but the update is a single

update file containing operations to update files in the client. As disclosed by

Jeyaraman, the update is applied by a client through operations to modify the

document in the client, including a single deletion operation and a modification

operation. As interpreted by the Examiner, an update file represents a set of

transformations sent to a client that are designed to update a cached copy of a

tree structured document in a single pass (column 7 lines 4-10, column 8 lines 6-

10). Therefore, Jeyaraman teaches each client device completes an update with

only a single replacement operation of replacing a corresponding element with

the updated minimum element.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANGELINO N. GORTAYO whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dangelino N Gortayo/   /Tim T. Vo/
Examiner, Art Unit 2168   Supervisory Patent Examiner, Art
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Examiner   SPE